NOVOTNY, Zdenek

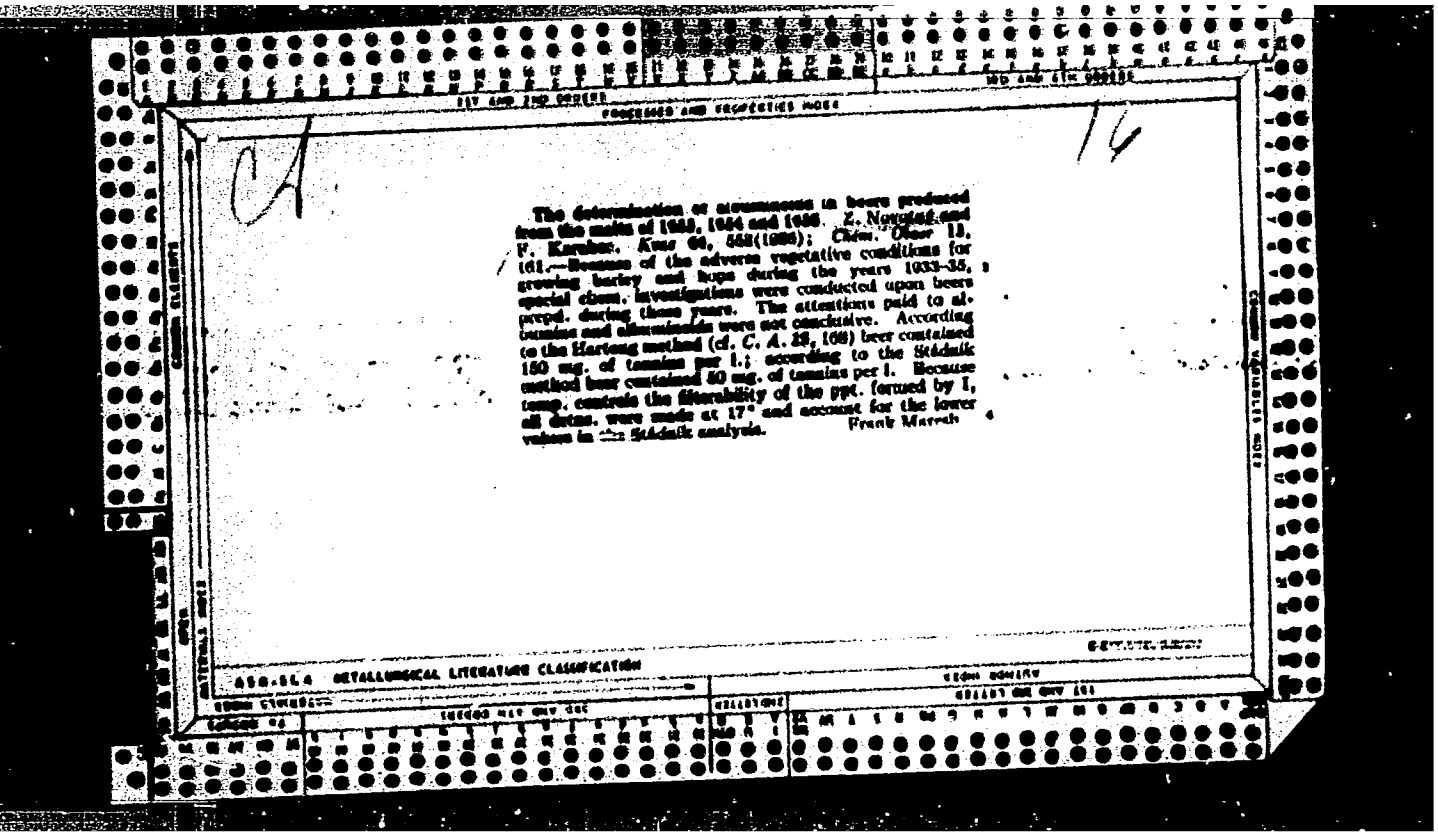
Fitness for work of employees with hearing defects in noisy work places. Prac. lek. 17 no.2:63-67 Mr'65.

1. Klinika nemoci usnich, nosnich a krcnich fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta: prof. dr. J. Sedlacek).

NOVOTNY, Z.; KOHOUTEK, J.

Meniere's disease and pressure of the arteria centralis retinae. Cesk. otolaryng. 14 no.4:247-252 Ag '65.

1. Otolaryngologicka klinika (prednosta prof. dr. K. Sedlacek) a II. ocni klinika (prednosta akademik J. Kurz) fakulty vseobecneho lekarstvi Karlovy University v Praze.



The determination of astringents in beers produced from the malts of 1933, 1934 and 1935. Z. Nowotny and F. Karabec. Kvas 66, 568(1936); Chem. Obzor 11, 161.—Because of the adverse vegetative conditions for growing barley and hops during the years 1933-35, special chem. investigations were conducted upon beers prepd. during these years. The attentions paid to astringents and chlorinoids were not conclusive. According to the Hartong method (cf. C. A. 28, 168) beer contained 150 mg. of tannins per l.; according to the Stöckmik method beer contained 50 mg. of tannins per l. Because temp. controls the filterability of the ppt. formed by I, all detns. were made at 17° and account for the lower values in the Stöckmik analysis.

Frank Marsh

NOVOTNY ZDENEK

CZECHOSLOVAKIA/Chemical Technology - Chemical Products and Their Application - Fermentation Industry. H-27

Abs Jour : Ref Zhur - Khimiya, No 3, 1958, 9547

Author : Novotny Zdenek
Inst :
Title : Use of Meopt Refractometer in the Laboratory of a Brewery.

Orig Pub : Kvasny prumysl, 1957, 3, No 5, 112

Abstract : A determination has been made of the factors (F) for converting the readings of a Meopt refractometer to Zeiss refractometer readings, in the analysis of beer under plant conditions: for beer of 7° strength F = 1.070; for beer of 10° F = 1.105, and for beer of above 12° F 1.110. The Meopt refractometer is adjusted in such a manner that refraction of distilled water at 20° is equal to 10.0. Thereafter a determination is made of the refraction of beer at 20° and 10 is substracted from

Card 1/2

NOVOTNY, ZDENEK

CZECHOSLOVAKIA/Chemical Technology - Chemical Products and Their Application. Fermentation Industry. I-12

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2829

Author : Novotny Zdenek
Inst :
Title : Prediction of the Extractability of Malt.

Orig Pub : Kvasny prumysl., 1957, 3, No 6, 125-128, 2nd and 3rd page of cover.

Abstract : A discussion of the question concerning the possibility of determining the extractability of malt by computation, on the basis of the results obtained by Heis and the practical data on experimental malt production conducted in Czechoslovakia in 1947/48. The formula of Bishop was found to be suitable for this purpose, as well as the modified formula of Novotny and Karabek. Differences in extractability values derived by calculations and those determined in practice were dipendent of soil and climate

Card 1/2

POLAND/Virology. General Problems. E-1

Abs Jour : Ref Zhur - Biol., No 15, 1958, 66905

Author : Novotny - Mieczynska, A.
Inst : [redacted]
Title : The Viruses - a Scientific and Technical Problem.

Orig Pub : Kosmos (Polska), 1957, A6, No 2, 127-140

Abstract : A review with nine references.

Card 1/1

AUTHOR: Hovotn/y, Kh., Head of the Institute of Chemistry, Vienna College of Engineering 74-27-3-6/7
Translator: Garovich, I. A.

TITLE: Pyrophoric Property of Metal Alloys (Piroformost metallicheskikh splavov)

PERIODICAL: Uspekhi Khimii, 1958, Vol 27, Nr 3, pp 333-364 (USSR)

ABSTRACT: At the beginning the author discusses various investigations and experiments on the pyrophoric property in some metal powders. Fricke, Lehmann, Wolf, Wolsbach (Ref 2) discussed this property in various papers. It was found that iron-cerium alloys containing 30% iron show strongest pyrophoric property. Later on it was found that iron can be replaced by nickel, cobalt or manganese. Furthermore, technology of the production of pyrophoric alloys is discussed. A generally valid method for the determination of the pyrophoric property of the metal could not be found up to now. There still exist divergencies of opinion when a metal or its alloy has the above property. On the structure of the pyrophoric cerium alloys:

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by means of thermal analysis and investigation of the micro structure of the system cerium - copper Khanaman discovered especially strong pyrophoric compositions in a field between the eutectic and the Cu_2Ce phase especially with ~30% Cu (see diagram 1). Wukht investigated anew especially high cerium alloys (see diagrams 2 and 3). As Vogel found out only the separated powder burns in the case of pyrophoric property caused by friction. The case is similar with the cerium magnesium system. Vogel and Khanaman drew the conclusion that weakly pyrophoric metallic cerium is strongly pyrophoric in alloys if an intermediate phase forms. Its crystals are characterized by special hardness and do not oxidize at room temperature. Data on some intermetallic phases of rare earth metals with pyrophoric properties can be learned from table 1. Also uranium and Mn-Sb, Mn-As and Fe-Sb alloys have pyrophoric properties. The author discusses in detail the conditions which lead to the formation of pyrophoric property. For some time it was assumed that the degree of the pyrophoric depends on the heat of the forming alloy (cerium with

Pyrophoric Property of Metal Alloys

74-27-3-6/7

other metals). Heat at the formation of the alloy however is smaller than combustion heat. Table 3 illustrates the temperatures of inflammation of the pyrophoric and other easily inflammable metals and alloys. The method of production and the antecedent of the sample exert considerable influence on combustion temperature (diagram 4). The atmosphere under which the powder was produced is also of importance. It strongly influences combustion temperature. A strong crusting of the particles leads to an increase of pyrophority. Forgeable metals are not pyrophoric, eutectic alloys however, to a strong degree. On the kinetics of the combustion process: oxidation of the pyrophoric particles is described as well as the theory on the influence of the defective structure on the mechanism of oxidation. Concluding a survey is given on the pyrophoric alloys (translated from German. Lecture by Professor Kh. Novotnyy at the Institute for Metallurgy imeni A. A. Baykov, AS USSR. Translator: N. A. Gurovich; edited by I. I. Kornilov).
There are 6 figures, 4 tables and 30 references. 0 of which are Soviet.

Card 3/3 1. Alloys--Thermodynamic properties

AUTHOR: Novotnyy, Kh. (Austria, Vienna) SOV/74-27-8-6/7

TITLE: Germanium and Its Compounds (Germaniy i yego soyedineniya) (Germanides and Germanates) (germanidy i germanaty)

PERIODICAL: Uspekhi khimii, 1958, Vol. 27, Nr 8, pp. [illegible] (USSR)

ABSTRACT: This is the translation of a lecture delivered by Professor Kh. Novotnyy at the Institute of Metallurgy of the AS USSR in September 1957 (translator G. F. Belyayeva). In the beginning of his lecture the professor said that instead of the enormous success in the field of transistors the development of the chemistry of germanium and its compounds has hitherto been slow, although the earth's crust contains [illegible] of germanium. The reason for this slow development is to be looked for in the fact that it was easier to find the germanium compounds did not have that variety of characteristics as is the case in silicon compounds. In the first part of his lecture the professor deals with the position of germanium in the periodic system of elements. The second part deals with the germanides, the binary systems with several components. The lecturer pointed out that the investigations carried out had shown that a great number of elements exists which does

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Germanium and Its Compounds (Germanides and Germanates)

not form germanides (Refs 9, 10). These binary systems of germanium belong to the eutectic systems. The lecturer then deals with the structure of germanides in alkaline metals and with the group of compounds in which D8 germanides occur. The third part of the lecture deals with the compounds of tetravalent germanium with oxygen (Refs 48-80), concluding he stated. This lecture gives a survey of the germanides (of binary compounds as well as of those with several components). When the germanides are compared to the corresponding silicates a number of similarity becomes evident: ThGe has the structure of B1; Th_3Ge_5 & $ThGe_2$ are of a structure similar to that of silicides. The 3 structural groups T1, T2 and $D8_8$ of the phases Me_5Ge_3 are also found in the germanides of Ta. In the case of germanates however, the structural similarity is less evident. There are 7 figures, 4 tables, and 80 references, 2 of which are Soviet.

1. Germanium--Chemical properties 2. Germanium alloys--Chemical properties

Card 2/2

NOVOTONY, Jiri, inz.

Standardization of industrial halls with steel structure. Inz stavby 12 no.5:189-195 My '64.

1. Vitkovicke zelezarny Klementa Gottwalda National Enterprise, Plant 65, Frydek-Mistek.

Novotorov, N. F.

USSR/Organic Chemistry. Synthetic Organic Chemistry. E-2

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26905.

Author : Novotorov, N.F.; Korshunov, I.A.
Inst :
Title : Synthesis of 1-C^{14}-Propienic Acid with Litium-Organic Compound.

Orig Pub: Zh. obshch. khimii, 1956, 26, No. 7, 1959 - 1961.

Abstract: $C_2H_5C^{14}OOH$ was synthetized by carboxylization of C_2H_5Li with $C^{14}O_2$. The reaction course is towards the formation either of the salt of the acid, or of the ketone, or of the alcohol (the yield of $C_2H_5C^{14}OOH$ being 6% at -30° and 95% at -70°) depending on the temperature of

Card 1/3

KORSHANOV, I. A. and NOVOTOROV, N. F. (Sci Res Inst for Chem [illegible]

"Synthesis of Tagged Organic Compounds and Their Radiochemical analysis"

Isotopes and Radiation in Chemistry, Collection of papers of 2nd All-Union Sci. Tech. Conf. on Use of Radioactive and Stable Isotopes and Radiation in National Economy and Science, Moscow, Izd-vo AN SSSR, 1958, 380pp.

This volume published the reports of the Chemistry Section of the 2nd AU Sci Tech Conf on Use of Radioactive and Stable Isotopes and Radiation in Science and the National Economy, sponsored by Acad Sci USSR and Main Admin for Utilization of Atomic Energy under Council of Ministers USSR Moscow 4-12 Apr 1957.

. NOVOTOROV, N. F.

79-1-11/63

AUTHORS: Korshunov, I. A., Novotorov, N. F.

TITLE: A Radiochemical Calculation of the Number of Carbon Atoms in the Organic Molecule (Radiokhimicheskoye opredeleniye chisla uglerodnykh atomov v organicheskoy molekule)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 1, pp. 47-51 (USSR)

ABSTRACT: In the papers of a number of authors the counter with internal filling was used for the determination of the activity of the compounds. The activity calculation of the compounds, obtained according to the method of isotopic indicators, is feasible by their direct introduction into the interior of the counter tube or as carbon dioxide which forms in the oxygen current after the burning of the organic product. The errors of calculation do not exceed ± 1%. The high actual efficiency of the calculation permits to determine the specific activities. The present paper points out the possibility to use the above-mentioned counter for the purpose of determining the number of carbon atoms in the organic molecule and for the purpose of the purity

Card 1/2

A Radiochemical Calculation of the Number of Carbon Atoms int the Organic Molecule

79-1-11/23

determination of the compound obtained according to the method of isotopic indicators. It was shown that the counter with internal filling can be used for the radiochemical calculation of the active carbon dioxide in organic compounds which under the usual conditions have a vapor-tension not below 4 - 5 torr. The comparison of the activities in the calculation of the isotopic compound C^{14} as vapor and as carbon dioxide after its burning permits to determine the total number of carbon atoms in the molecule and the portion of isotopic carbon atoms in it, as well as to determine quantitatively the quantity of admixtures in the organic compound. There are 1 figure and 10 references, 7 of which are Slavic.

ASSOCIATION: Gor'kiy State University
(Gor'kovskiy gosudarstvennyy universitet)

SUBMITTED: December 24, 1956

AVAILABLE: Library of Congress

Card 2/2 1. Organic compounds 2. Isotopic counter 3. Chemistry-Theory

AMENITSKAYA, R.V.; BATALOV, A.P.; GLAZOV, V.M.; KORSHUNOV, I.A., prof.; KUTSEPIN, V.F.; NOVOTOROV, N.F.; ORLOVA, A.A.; PETROV, A.M.; SHAFIYEV, A.I.

[Problems in radiochemistry] Sbornik zadach po radiokhimii. [By] R.V.Amenitskaia i dr. Pod red. I.A.Korshunova. Gor'kii, Gor'kovskii gos. univ. im. I.I.Lobachevskogo, 1959. 91 p. (MIRA 15:11)

1. Prepodavateli khimicheskogo fakul'teta Gor'kovskogo gosudarstvennogo universiteta im. N.I.Lobachevskogo (for all)
(Radiochemistry)

KORSHUNOV, I.A.; NOVOTOROV, N.F.; ARENITSKAYA, R.V.; OKROKOVA, I.S.; PESTUNOVICH, N.A.; LUBOVSKAYA, V.N.; LEONOV, M.R.; GLAZOV, V.M.

Synthesis of organic compounds tagged with radioactive carbon. Radiokhimiia 1 no.6:728-733 '59. (MIRA 13:4)
(Carbon--Isotopes) (Organic compounds)

S/079/60/030/009/002/015
B001/B064

AUTHORS: Korshunov, I. A., Novotorov, N. F., Okrokova, I. S.

TITLE: Synthesis of Paraffins Tagged With Radioactive C^{14} by Hydrogenating Olefins and by Decomposing Organometallic Lithium Compounds

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 9, pp. 2804-2808

TEXT: The synthesis of the above-mentioned hydrocarbons described in Refs. 1, 2 has a number of essential shortcomings, above all the poor yield (40%) as well as the complicated way of refining the final product, especially from the ether used as medium. To avoid this, it was necessary to develop a new method. In this respect the catalytic hydrogenation of olefins at low temperatures and standard pressure, as well as the decomposition of the crystalline organo-lithium compounds by means of oxidation appear to be of greatest importance. The present investigation deals with the synthesis of C^{14}-tagged paraffins by way of hydrogenation of olefins with a specially effective platinized coal (10% platinum). In this con-

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Synthesis of Paraffins Tagged With Radioactive C^{14} by Hydrogenating Olefins and by Decomposing Organometallic Lithium Compounds

S/079/60/030/009/002/015
B001/B064

nection, the effect exerted by temperature, velocity of the gas current of reacting components upon the yield was investigated. At the same time, the synthesis of the paraffins tagged with radioactive C^{14} by means of organo-lithium compounds was worked out. The synthesis of saturated hydrocarbons by this method proceeds smoothly, but the formation of lithium alkyl occurs too slowly, especially towards the end of the reaction so that the yield in tagged hydrocarbons amounts to approximately 85-90% only. Thus, ethane-C^{14}, propane-1-C^{14}, butane-1-C^{14}, isobutane-1-C^{14}, octane-1-C^{14} were synthesized by means of catalytical hydrogenation. Propane-1-C^{14}, butane-1-C^{14}, isobutane-1-C^{14} were obtained by decomposition of organolithium compounds. The method suggested may be employed for the utilization of alcohol-containing by-products of low specific activity as well as of alcohols containing tagged products that form no alkyl halides. The two figures show the two apparatus for the hydrogenation of the hydrocarbons and for the synthesis of the organo-lithium compounds with subsequent decomposition, and Table 2 the constants of the saturated hydrocarbons. There are 3 figures, 2 tables, and 9 references: 6 Soviet, 2 US, and 1 British.

Card 2/3

57-11-3/33

AUTHORS: Rzhanov, A. V., Novototskiy-Vlasov, Yu. F., Neizvestnyy, I. G.,

TITLE: Study of the Field Effect and Surface Recombination in Germanium Samples (Issledovaniye effekta polya i poverkhnostnoy rekombinatsii v obraztsakh germaniya)

PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol. 27, Nr 11, pp. 2440-2450 (USSR)

ABSTRACT: The purpose of the present paper was the check of the assumption of the invariability of the surface-recombination-centres in the course of a gas cycle as well as the maintainance of the dependence of the surface recombination velocity on the electrostatic surface potential by way of experiment. A parallel investigation of the surface recombination and of the variation of the conductivity in the case of an action of the electric transversal field (field effect) in different gas atmospheres facilitated the detection that under the influence of ozone new "rapid" surface states a part of which is connected with the recombination develop on the germanium surface. Assuming that in consequence of the influence of the ozone two energetic position states are introduced their density and the variations of the density according to the time after the ozone influence were computed and the effective electron capture cross sections of the deeper lying re-

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Study of the Field Effect and Surface Recombination in Germanium Samples. 57-11-3/33

combination states evaluated. It is shown that the introduction of new recombination states by ozone as well as the influence of the accumulation effect noticed in the case of work lead to an essential decrease of the time interval for the alteration of the electrostatic surface potential. Here the dependence of the surface recombination velocity on the potential can be analyzed within the potential according to the method of the parallel investigation of the field effect and of the recombination velocity in various gaseous media. There are 5 figures and 3 Slavic references.

ASSOCIATION: Institute for Physics imeni P. N. Lebedev AN USSR, Moscow (Fizicheskiy institut im. P. N. Lebedeva AN SSSR, Moskva)

SUBMITTED: May 17, 1957

AVAILABLE: Library of Congress

Card 2/2

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SOV/181-1-9-27/31

24.7700
~~24(6), 24(3)~~

AUTHORS: Rzhanov, A. V., Novototskiy-Vlasov, Yu. F., Neizvestnyy, I.G.

TITLE: On the Problem Concerning the Nature of the Surface Recombination Centers on Germanium

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 9, pp 1471 - 1474 (USSR)

ABSTRACT: The authors had already found out in 1955 that preheating of germanium samples leads to a considerable increase in the surface recombination rate of the surplus charge carriers at about 100°C. The occurrence of new recombination- and capture centers is explained by an adsorption of oxygen- and hydrogen molecules on the germanium surface. To investigate the nature of these centers, one must know their activation energy and the concentration limit; one obtains both from an investigation of the dependence of the center concentration on the preheating temperature. For this purpose the authors conducted simultaneous measurements of the stationary photoconductivity and of the field effect on the large signal. The samples were irradiated with square light pulses; an oscillogram taken in this connection is shown in figure 1. The lower curve illustrates the dependence of

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On the Problem Concerning the Nature of the Surface Recombination Centers on Germanium

conductivity on the transversal electric field in the dark, the interval between the two curves illustrates the value of the steady photoconductivity. Measurements were made on p-type germanium samples with a resistivity of 20-25 ohm.cm. The maximum preheating temperature was 475°K. Measurements were made in vacuum (10^{-6} torr) at 300°K. Figure 2 shows on a semi-logarithmic scale the dependence of the maximum surface recombination rate on the reciprocal sample temperature. The activation energy of the centers, evaluated from the inclination of the linear curve portion yielded ~ 0.2 ev, their maximum concentration in the saturation region $\sim 10^{12}/cm^2$. When assuming that a concentration increase of the recombination centers is due to desorption of water molecules, the adsorption heat can be calculated as being 4.5 kcal/mole. In the samples under investigation the ratio of the capture cross sections for holes and electrons was ranging from 2 to 100, the recombination levels ranged between 3 - 6 kT. The results obtained are utilized by the authors in order to discuss their surface model of germanium and in order to explain further details of the adsorption-desorption

On the Problem Concerning the Nature of the Surface Recombination Centers on Germanium

mechanism. The authors thank S. V. Pokrovskaya and T.I.Galkina for their assistance. There are 2 figures and 4 Soviet references.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR Moskva (Institute of Physics imeni P. N. Lebedev of the AS USSR, Moscow)

SUBMITTED: April 6, 1959

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RZHANOV, A.V.; NOVOTOTSKIY-VLASOV, Yu.F.; NEIZVESTNYY, I.G.; POKROVSKAYA, S.V.; GALKINA, T.I.

Nature of surface recombination centers in germanium. Fiz. tver. tela 3 no. 3:822-831 Mr '61. (MIRA 14:5)

1. Fizicheskiy institut imeni P.N. Lebedeva AN SSSR, Moskva.
(Crystal lattices) (Germanium)

29609
S/12 /61/000/004/019/034
E036/E335

24.7100 (1164, 1385, 1559)

AUTHORS: Novotskiy-Vlasov, Yu.F and Neizvestnyy, I.G.

TITLE: Apparatus for investigating the surface states of germanium

PERIODICAL: Pribory i tekhnika eksperimenta, no. 4, 1961, pp. 127 - 131

TEXT: This article describes the method and apparatus used for studying "fast" surface states by a combination of the large signal field effect and the stationary photoconductivity methods. The method of heating the sample up to 750 °K by a current is also described. A qualitative account is first given of the field effect method of varying the surface potential of the sample by means of a capacitatively applied field. This results in moving the Fermi level at the surface with respect to the surface recombination centres. By measuring the surface recombination velocity S as a function of the surface potential, information about the trap parameters is obtained. For applying the field a metal electrode is used with a mica spacer (8 - 10 μ) between the metal and the sample surface. Using a sinusoidal

Apparatus for investigating ....

voltage of 100 - 200 V it is possible to cover the surface with a charge of 10^{-7} coulomb/cm^2. The range of surface potentials covered is 12 - 15 kT/q (k is the Boltzmann constant, T is the absolute temperature and q the electronic charge). If the frequency is in the range 20 - 100 cycles the fast states are in equilibrium at any instant whilst the slow states do not screen the field. The large amplitude of the applied field makes it possible to observe a minimum in the sample conductance. Using Brown's method of calculation (Ref. 1 - Phys. Rev., 1955, 100 590) the surface potential φ_S is calculated, together with the charge captured by the fast states. By illuminating the specimen with an alternating light source, at a frequency which is not a harmonic of the varying field, two field effect curves are obtained, dark and illuminated. The light intensity is selected so that the electrostatic potential on the illuminated field effect curve coincides with the dark curve. The photoconductivity is simply related to the difference between the two curves at any given

Apparatus for investigating ....

potential and this in turn is proportional to the effective lifetime. Assuming that the diffusion length is greater than several times the sample thickness (h), the surface recombination rates on both illuminated and dark surfaces are identical and making various simplifying assumptions, then the effective lifetime τ_{eff} is simply related to the bulk lifetime τ_o and the surface recombination velocity

$$\Delta G = K\tau_{eff} = K(\tau_o^{-1} + 2S/h)^{-1} \qquad (4) .$$

Here, $K \equiv e(\mu_n + \mu_p)R$, where μ_n, μ_p are the electron and hole mobilities and R is the carrier generation rate at the surface To obtain the same recombination rates on both sides of the thin sample, the field is applied to both surfaces, using a transparent metal electrode to facilitate the illumination. The sample holder of quartz is polished to a precision of 0.1 μ and a layer of tin oxide deposited by sublimation of the chloride in air at 380 °C. This layer is 90% transparent with a

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Apparatus for investigating ....

resistance of 150 - 200 Ω. The light source is varied at 140 c.p.s. By using an intense source values of S up to 1.10^4 - 2.10^4 cm/sec can be determined. For calibration the lifetime is measured by the photo-conductive decay method with the applied field switched off. A block circuit diagram is given for the measuring equipment. In addition to a generator for applying the field to the sample, measured with a valve voltmeter, the range of φ_s may be extended by using batteries. The displacement currents across the field effect capacitance are balanced out by a simple bridge circuit. For this reason neither end of the sample could be grounded and it was necessary to employ an amplifier with a balanced input. The two ends were connected through cathode followers to the grid and cathode, respectively, of the intput tube. From the anode the signal was fed with negative feedback to an amplifier with a passband of 2 cycles to 2 megacycles and a gain of about 100. From here it was fed to the vertical plates of an oscilloscope. The sinusoidal voltage from the field effect generator was fed to the

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Apparatus for investigating ....

horizontal plates through a phase-shifter. The signal was calibrated using a pulse of known amplitude. An additional feature of the apparatus is that the sample is heated by passing a current through it and by this means the recombination-level properties can be measured as a function of temperature. An advantage is that contamination from the hotter parts of the apparatus in the usual method is avoided and lower temperature contacts can be used. The sample temperature can be found from the known variation of resistivity with temperature as the samples are in the intrinsic range (28 - 32 Ω cm). Using a bridge circuit to supply the current the temperature is maintained within 1 - 2 °K uniformly over the sample length up to 750 °K. The method is particularly useful for measuring fast surface recombination rates, as on silicon, and has been successfully used in the laboratory for several years. An acknowledgment is made to L.V. Rzhanov. There are 4 figures and 4 non-Soviet-block references (all English-language): Ref. 1 - quoted in text; Ref. 2 - C.G.B. Garret, W.H. Brattain - Phys. Rev., 1955, 99, 376; Ref. 3 - J.R. Schrieffer - Phys. Rev., 1955, 97,

Card 5/6

29609
S/120/61/000/004/019/034
Apparatus for investigating E036/E335

641; Ref. 4 - F.J. Morin, J.P. Maita - Phys. Rev., 1954, 94, 1525.

ASSOCIATION: Fizicheskiy institut AN SSSR
(Physics Institute of the AS USSR)

SUBMITTED: August 3, 1960

Card 6/6

L 12921-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD

ACCESSION NR: AT3002441 S/2935/62/000/000/0069/0078

AUTHOR: Novototskiy-Vlasov, Yu. F.; Sinyukov, M. P.

TITLE: Effect of adsorbed polar molecules on the surface characteristics of germanium /Report at the Conference on Surface Properties of Semiconductors, Institute of Electrochemistry, AN SSSR, Moscow, 5-6 June 1961/

SOURCE: Poverkhnostnyye svoystva poluprovodnikov. Moscow, Izd-vo AN SSSR, 1962, 69-78

TOPIC TAGS: polar molecule, germanium, germanium surface characteristics

ABSTRACT: Although the effect of H_2O molecules adsorbed by Ge was the aim of the investigation, other polar molecules (amyl alcohol, isoamyl alcohol, chlorobenzene, nitrobenzene) were used in the adsorption experiments in order to eliminate possible ambiguity of interpretation. Specimens of p-Ge with a resistivity of 28-30 ohms.cm and a volume lifetime of 500-700 microsec were tested. It was found that (1) physically adsorbed water is primarily responsible for neutralization of surface recombination centers; (2) the electric field of a polar molecule that approaches a recombination center drastically changes the capture cross section affecting but little the energy position of the center; (3) the center becomes a

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ACCESSION NR: AT3002441

slow surface state; (4) the neutralization process is limited not only by diffusion of molecules through the oxide film but also by the process of fixation of the dipole near the recombination center. "The authors are thankful to A. V. Rzhanov for his constant interest in the work and useful discussion of its results." Orig. art. has: 1 formula and 1 table.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Institute of Physics, AN SSSR)

SUBMITTED: 00 DATE ACQ: 15May63 ENCL: 00

SUB CODE: PH NO REF SOV: 006 OTHER: 000

Card 2/2

L 41144-65 EWT(m)/EPF(c)/EWA(d)/EWP(t)/EWP(b) IJP(c) JD/WB
ACCESSION NR: AP5000642 S/0181/64/006/012/3500/3501

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B

AUTHOR: Moskalenko-Vlasov, Yu. F.

TITLE: Surface properties of thermally oxidized germanium 27

SOURCE: Fizika tverdogo tela, v. 6, no. 12, 1964, 3500-3501

TOPIC TAGS: thermal oxidation, surface recombination, germanium, recombination annealing

ABSTRACT: Germanium specimens were heated to 750K in oxygen and ozone atmospheres in order to determine the effect of heating on the surface characteristics. Investigations showed that when the specimens were heated in dry oxygen at temperatures ranging from 300 to 750K, the rate of surface recombination (s) decreased monotonically with increasing temperature. The highest density of fast surface recombination states was observed after heating to 500K. Increasing the temperature caused the density to decrease sharply, so that it approached the recombination density of freshly etched specimens. Heating in ozone is more effective. However, after heating to 750K in ozone, the value of s was lower than that on freshly etched specimens. After

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L 41144-65
ACCESSION NR: AP5000642

heating the specimens in oxygen to 750K, the value of s decreased, on the average, to 300 cm/sec while after heating in ozone to the same temperature, s was 60—70 cm/sec. These results led to the conclusion that when a germanium specimen is heated to a high temperature in dry ozygen or ozone, a structurally perfect oxide coating appears on its surface. Since s does not change when the specimen is kept in water, the oxide coating is apparently a tetragonal form of germanium dioxide not soluble in water. Orig. art. has: 1 figure.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR, Moscow (Physics Institute, Academy of Sciences, SSSR)

SUBMITTED: 25Mar64 ENCL: 00 SUB CODE: SS, TD

NO REF SOV: 001 OTHER: 001 ATD PRESS: 3160

Card 2/2

L 52525-65 EWG(j)/EWT(m)/EPF(c)/EPR/EWP(t)/EWP(b) Pr-4/Ps-4 IJP(c) JD
ACCESSION NR: AP5010715 UR/0181/65/007/004/1086/1091

29
24
B

AUTHOR: Novotorskiy-Vlasov, Yu. F.

TITLE: Role of water in the formation of dominating surface recombination centers on germanium

SOURCE: Fizika tverdogo tela, v. 7, no. 4, 1965, 1086-1091

TOPIC TAGS: recombination center, surface property, ozone, germanium

ABSTRACT: An investigation was made of the influence of ozone and high temperature heating in vacuum on the surface characteristics of germanium. All experiments were made in an atmosphere of thoroughly dried oxygen (which is equivalent to vacuum as far as the surface properties of germanium are concerned) on samples heated to 500K for five minutes and then cooled to 300K. The measurement procedure was described earlier (PTE No. 4, 127, 1961). It is shown that the ozone not only fails to introduce additional recombination centers, as was assumed previously, but leads to a considerable decrease in the concentration of the existing centers. It is shown that a decisive factor in the concentration of the surface recombina-

Card 1/2

L 52525-65
ACCESSION NR: AP5016715

5

tion centers is the adsorption of water on the surface of germanium. A model proposed for the surface recombination center, satisfying the experimental data. It is concluded, from an analysis of the relations between the changes occurring during these experiments in the concentrations of the recombination centers and of the fast states, that data on the field effect should not be used to determine the recombination-center parameters. "The author thanks B. M. Vul for interest in the work and A. V. Rzhanov, I. G. Neizvestnyy, and Yu. A. Kurskiy for a useful discussion of the results." Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR, Moscow (Physics Institute, AN SSSR)

SUBMITTED: 25Mar64 ENCL: 00 SUB CODE: SS, IC

NR REF SOV: 011 OTHER: 005

Card 2/2

L 06427-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6026702 SOURCE CODE: UR/0181/66/008/008/2458/2459

AUTHOR: Prudnikov, R. V.; Novototskiy-Vlasov, Yu. F.; Kiselev, V. F.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Effect of the surface of the oxide film on the surface electrophysical properties of germanium

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2458-2459

TOPIC TAGS: surface property, electric potential, germanium, adsorption, desorption

ABSTRACT: Changes in the surface potential of germanium Y_s^0, maximum rate of surface recombination S_{max}, and charge in fast surface states Q_{ss} during adsorption of water and its desorption by heating in a vacuum to 500°K were studied. The data obtained are compared with results of direct adsorption measurements made on germanium powder treated under identical conditions. It was found that the adsorption and desorption of water leads to reversible changes in Y_s^0, S and Q_{ss}. The greatest changes occur at the initial stage of filling of the surface. It is postulated that at this stage, a part of the molecules enter into donor-acceptor bonds with the coordination-unsaturated surface atoms of germanium, which have vacant and sufficiently low d orbitals. At the same time, the electron density of the unshared electron pair of oxygen (in the H_2O molecule) is drawn into the d subshell of the germanium atom; Ge thus acquires a net

Card 1/2

L 06427-67

ACC NR: AP6026702

negative charge, and water, a net positive charge. The moment of this dipole may be many times greater than that of water. Above 500°K, OH groups are removed from the surface oxide film, causing the structure of the oxide to change. At 650-750°K, this structure converts to the close-packed tetragonal modification of GeO_2. This causes irreversible changes in the adsorptive activity and to the healing of defects serving as the base for recombination centers and fast states. The oxide film begins to decompose at 700°K, and Y_s^0 shifts to the negative side because the defect concentration increases sharply. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 15Jan66/ ORIG REF: 003

Card 2/2

NOVOVIC, Tiosav; TODOROVIC, Zivko

Chrysotile-asbestos deposits in the environs of Donisevina, Borance, and Vitos in the Kopaonik Mountain. Glas Prir muz A 241-249 '61.

NOVOVIC, Tiosav; DELEJA, Dragica

Geology and tectonics of Satorica with a special emphasis on its sulfide ore occurrences. Glas Prir muz A 16/17:139-151 '62.

RADUKIC, Milos; NOVOVIC, Tiosav

The lead and zinc deposits at Koporic (Kopaonik Mountain).
Glas Prir muz A 16/17 153-169 '62.

RADUKIC, Milos; NOVOVIC, Tiosav

Antimonite veins in Rajlce a Gora, Kopaonik Mountain. Glas Prir muz A 18:35-42 '63.

1. Submitted October 15, 1962.

NOVOVRANTSEV, V.I.

International Standard Organization recommendations for the standardization of pallets. Standartizatsiia no.1:85 Ja-F '57. (MLRA 10:5)

(Material handling)

NOVOYAN, Kh.A.

Computation of the canal slope in a mountain dam with a bottom grille. Izv.AN Arm.SSR.Ser.FMST nauk 5 no.5:65-74 '52. (MLRA 9:8)

1. Armyanskiy sel'skokhozyaystvennyy institut.
(Barrages)

L 53736-65 EPF(c)/EPR/EPA(s)-2/EWT(m)/EWP(1)/EWP(b)/EWP(e) Pq-4/Pr-4/Ps-4/Pt-7
WW/WH

ACCESSION NR: AP5015562 UR/0286/65/000/008/0119/0119
666.189.211

AUTHOR: Shkol'nikov, Ya. A.; Polik, B. M.; Karakhanidi, N. G.; Ivanov, P. K.; Gober, F. I.; Ulybyshev, V. V.; Alen'kin, A. T.; Bugrova, N. N.; Simakov, D. P.; Shchipin, I. Ye.; Gur'yeva, Yu. N.; Yefimova, M. I.; Nechayeva, Ye. S.; Yesilkina, K. M.; Ivanova, A. I.; Dayn, E. P.; Nabatov, V. G.; Novoyevskaya, Ye. A.; Kukin, Ye. B.; Balashov, V. N.; Gamza, L. B.

TITLE: Glass for glass fibers. Class 32, No. 170369

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 119

TOPIC TAGS: glass, glass fiber

ABSTRACT: An Author Certificate has been issued for a glass suitable for making glass fibers. To increase chemical durability, to prevent corrosion of alloys of aluminum and other light metals, and to improve processability, the glass is formulated to contain: 58—63% SiO_2, 2—4% B_2O_3, 6—8% Al_2O_3, 0.5—1.5% F_2O_3, 4—6% ZrO_2, 6—6% CaO, 12—13% Na_2O, and 1.5—2% K_2O. [SM]

ASSOCIATION: none

Card 1/2

NOVOZAMSKA, Helena; ZYKA, Jaroslav

Colorimetric determination of copper in [illegible] by tetraethylthiuram disulfide. [illegible] potravin 15 no.[illegible] '64.

1. Chair of Analytical Chemistry, Charles University, Prague.

DOLEZAL J.; NOVOZAMSKY, I.; ZYKA, J.

Indirect complexometric determination of sodium. Coll Cz Chem 27 no.8: 1830-1834 Ag '62.

1. Institut fur analytische Chemie, Karls-Universitat, Prag.

L 37686-66 EEC(k)-2/EWT(1)/T IJP(c)

ACC NR: AT6021246 SOURCE CODE: UR/3217/65/000/001/0116/0118

AUTHOR: Dolgin, V. P. (Engineer); Novozhenin, N. N. (Engineer); Solodyankin, Yu. I. (Engineer)

ORG: none

B+1

TITLE: One type of double diode

SOURCE: Ukraine. Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya. Priborostroyeniye, no. 1, 1965, 116-118

TOPIC TAGS: chemotron, solion

ABSTRACT: The development of a new chemotron double diode (see Fig.1) is reported.

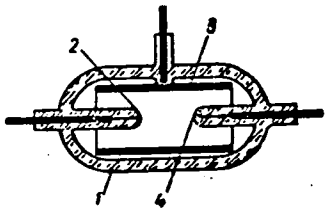


Fig. 1. New chemotron double diode

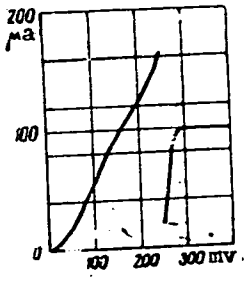


Fig. 2. I-V characteristic

Card 1/2

L 37686-66

ACC NR: AT6021246

Glass envelope 1 houses 0.1-mm Pt-wire anodes 2, 4 and 300-mm² Pt-screen cathode 3. The diode is filled with a 0.001 HI_3 and ZHKI solution. Its I-V characteristic (see Fig.2) has a jump at 250 mv with a maximum current of 165 μa; rectification factor, 2222 at ±170 mv. The sustained maximum diffusion current is 100 μa or less at applied voltages within 270—900 mv. The new diode has been used in an infralow-frequency multivibrator. Orig. art. has: 4 figures. [03]

SUB CODE: 09 / SUBM DATE: 09Feb66 / ORIG REF: 003 / ATD PRESS: 5041

Card 2/2

NOVOZHENIN, S.A., inzh.

Bucket for the Esh-1 dragline excavator used in hydraulic coal mining. Stroi. i dor. mashinostr 3 no.5:12-13 My '58. (MIRA 11:6)
(Hydraulic mining) (Excavating machinery)

NOVOZHENIN, S.A.

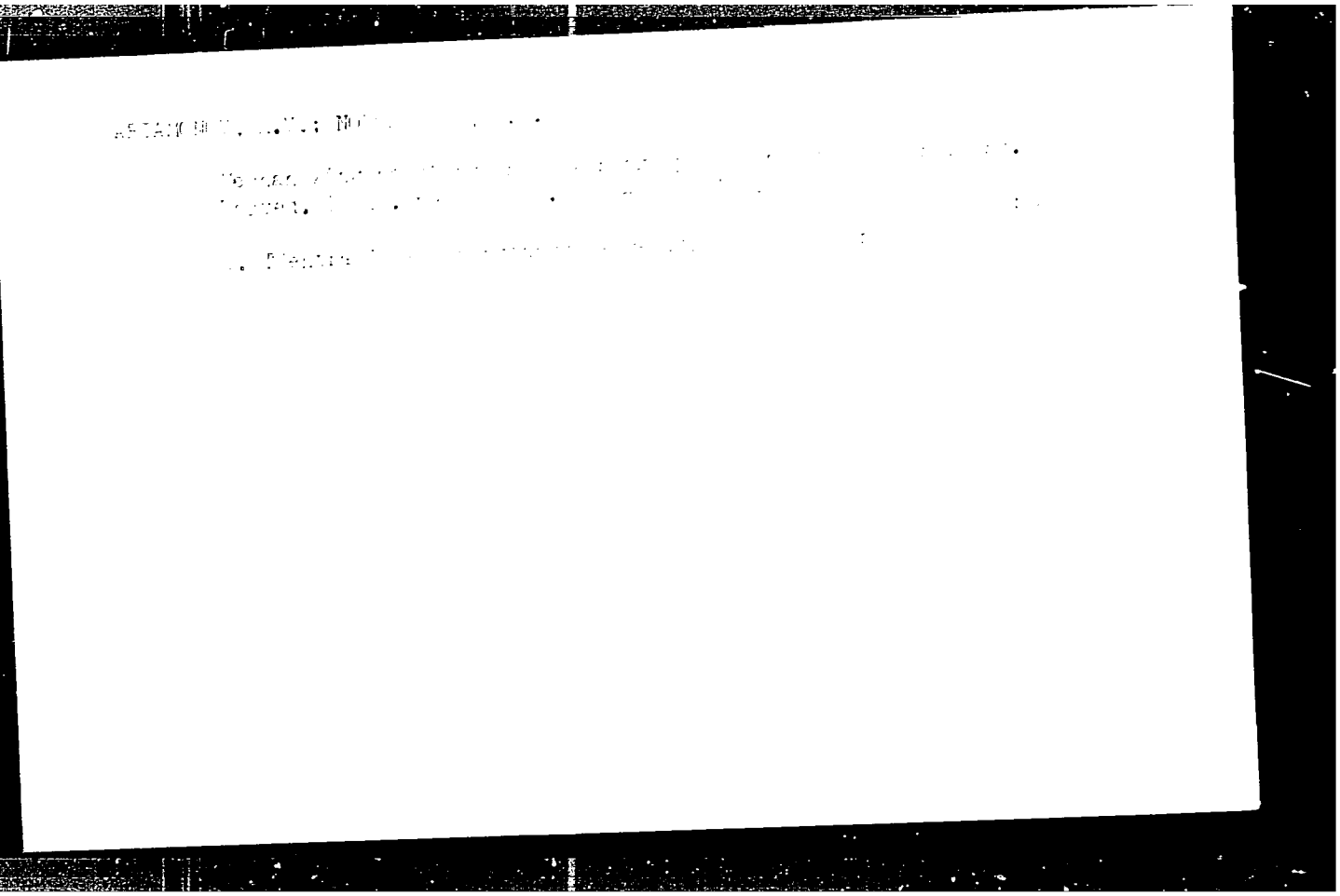
Improving the design of 200-B excavator shafts. Stroi. i dor. mashinostr. 3 no. 8:34-35 Ag '58. (MIRA 11:8)
(Excavating machinery)

NOVOZHENIN, S.A.

SVBK-200 rotary drill. Gor.zhur. no.2:61 F '61. (MIRA 14:4)

1. Glavnyy konstruktor Korkinskogo ekskavatoro-vagonoremontnogo zavoda.

(Boring machinery)



Novozhenov, G. F.

USSR/Electronics - Pulse Oscillators FD-2225

Card 1/1 Pub 90-5/12

Author : Novozhenov, G. F.

Title : A method of determining the power of a pulse oscillator

Periodical : Radiotekhnika, 10, 33-40, Mar 1955

Abstract : The peculiarities of peak power measurement of a pulse oscillator with the aid of oscilloscope, and the errors that might arise with those measurements, are discussed in this article. The interrelation among three basic parameters (overall average power, average power for each pulse and peak power) of a pulse oscillator are explained. The correction factor formulas for sinusoidal, bell-shaped, trapezoidal and complex, exponential-front waves are derived. Graphs.

Institution:

Submitted : 12 May 1952

9(4) PHASE I BOOK EXPLOITATION SOV/1634

Novozhenov, German Fedorovich

Ob"yemnyye rezonatory (Cavity Resonators) Moscow, Voyenizdat M-va obor. SSSR, 1958. 64 p. (Series: Radiolokatsionnaya tekhnika) Number of copies printed not given.

Ed.: A.V. Vrublevskiy, Engineer, Lt. Colonel; Tech. Ed.: A.T. Babochkin

PURPOSE: This book is intended for officers working in radio installations. It may also be useful to readers withing to learn the operation of individual units and components of radar equipment.

COVERAGE: The author describes in popular form the operating principle, design and applications of cavity resonators. For a more detailed study he recommends books: "Transmission Lines" by I.P. Markov ani "Waveguides" by B.A. Fogel'son. There are no references.

TABLE OF CONTENTS:

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SOV/1634

Cavity Resonators

AVAILABLE: Library of Congress (TK.6590.R4N6)

Card 3/3

JP/gmp
5-12-59

NOVOZHENOV, I. S.

Novozhenov, I. S.

"Freezing and the Resulting Deformation of Ground in the Central Urals and the Effect of This on the Depth of Foundations." Min Higher Education USSR. Ural Polytechnic Inst imeni S. M. Kirov, Sverdlovsk, 1955. (Dissertation for the Degree of Candidate in Technical Science)

So: Knizhnaya letopis', No. 27, 2 July 1955

DEREVYANKIN, V.A.; NOVOZHENOV, V.M.; IL'YASHEVICH, Ye.M.; KUZNETSOV, [illegible]

Effect of washing on the settling rate of red mud in alumina production. TSvet. met. 38 no.9:55 S '65.

(MIRA 18:12)

NOVOZHENOV, Yu.I.

Significance of the analysis of the contents of bird stomachs for entomological research. Trudy Ural. otd. MOIP no.3:123-124 '59. (MIRA 14:12)

1. Il'menskiy gosudarstvennyy zapovednik imeni V.I.Lenina Ural'skogo filiala Akademii nauk.
(Birds--Food)
(Entomological research)

NOVOZHENOV, Yu.I.

Insect pests feeding on coniferous needles and young larches in the Il'men' Preserve. Trudy Il'm. gos. zap. no.8:183-193 '61.
(MIRA 15:11)

(Il'men' Preserve--Forest insects)

NOVOZHENOV, Yu.I.

Survey of the fauna of harmful forest insects in the Il'men' Preserve. Trudy Inst. biol. UFAN SSSR no. 25:149-157 '61. (MIRA 15:6)
(Il'men' Preserve--Forest insects)

NOVOZHFNOV, Yu.I.

Significance of the analysis of the stomach contents of birds for entomological research. Biul. MOIP. Otd. biol. 66 no.6:153-154 N-D '61. (MIRA 14:12)
(BIRDS--FOOD) (ENTOMOLOGICAL RESEARCH)

NOVOZHENYUK, Z. M. Cand Chem Sci

Dissertation: "Sulfite-Ammonia and Sulfite-Pyridine Compounds of Platinum." 20/12/50

Inst of General and Inorganic Chemistry imeni N. S. Kurnakov, Acad Sci USSR.

SO Vecheryaya Moskva
Sum 71

NOVOZHENYUK, Z. M.

Chemical Abst.
Vol. 48 No. 6
Mar. 25, 1954
Inorganic Chemistry

The complex sulfite compounds of platinum. V. V. Lebedinskii and Z. M. Novozhenyuk. *Izvest. Sektora Platiny i Drug. Blagorod. Metal. Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 26, 83-94(1951).—By treating $K_4[Pt(SO_3)_4].H_2O$ with dil. HCl it was shown that there is a stronger bond between the sulfite radical and the central atom when the former occupies one "coördination place" instead of two. By treating this compd. with a small quantity of dil. H_2SO_4, $K_4[Pt(SO_3)_2(SO_4H)_2]$ was obtained as such and also with 4 mols. of water of crystn. The action of a large quantity of concd. HCl on $K_4[Pt(SO_3)_4].H_2O$ gave $K_2[PtCl_2SO_3(SO_3H)]$, which with thiourea formed the non-electrolyte $[Pt(Thio)_2SO_3]$. The cis configuration of $[Pt(NH_3)_4][PtCl_2SO_3(SO_3H)]_2$ was demonstrated by treating with ethylenediamine to form $[Pt(NH_3)_4][Pten(SO_3)_2]$. The possibility of closing the rings of the sulfite groups was shown by boiling $[Pt(NH_3)_4][PtCl_2SO_3(SO_3H)]_2$ in water and forming $[Pt(NH_3)_4][Pt(SO_3)_2]$. Treating this compd. with NH_3 produced $[Pt(NH_3)_4][Pt(NH_3)_2(SO_3)_2]$.

J. R. Behrman

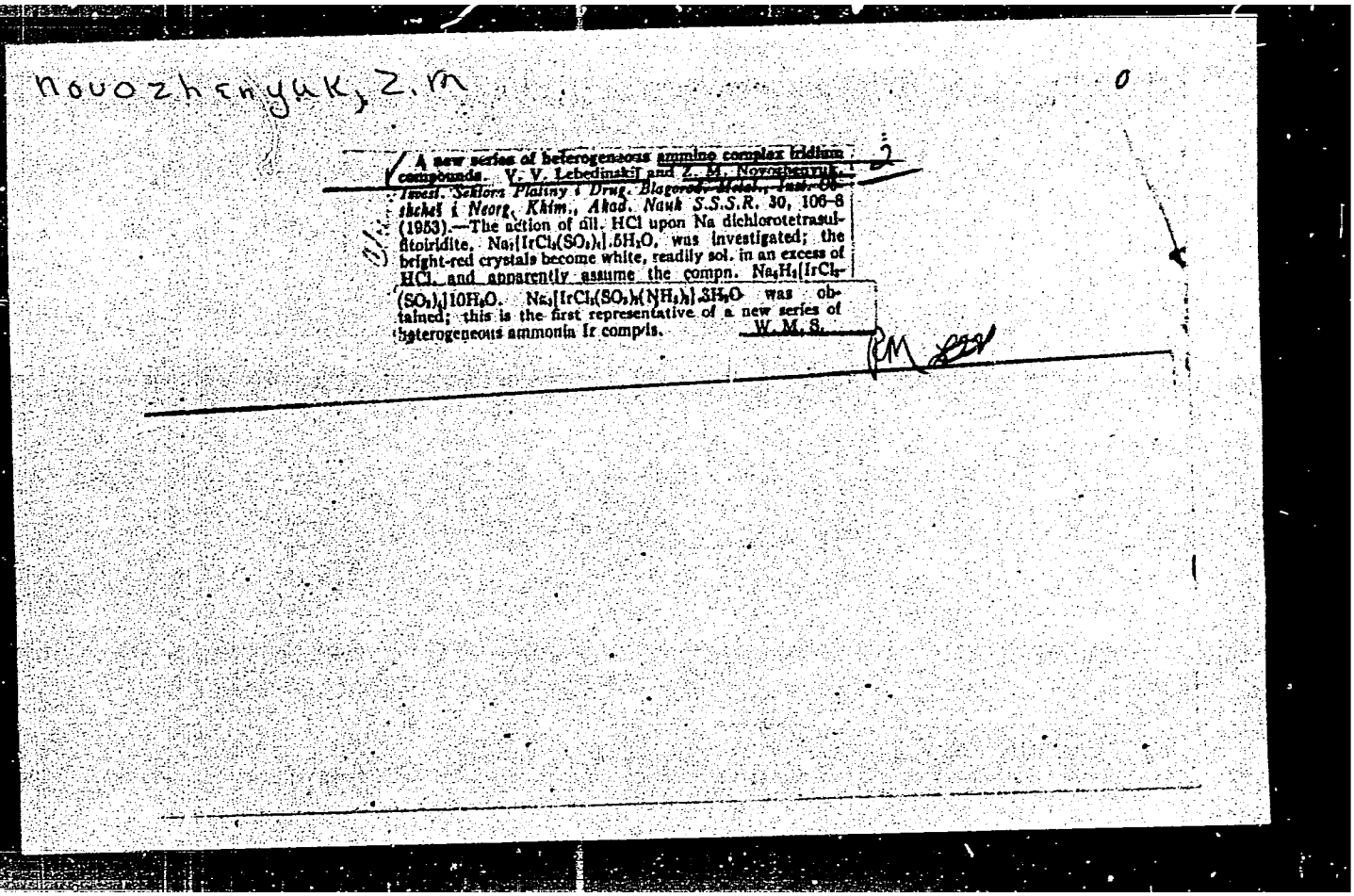
NF
11-5-54

NOVOZHENYUK, Z.M.

LEBEDINSKIY, V.V.; NOVOZHENYUK, Z.M.

Ammonium sulfite and pyridine sulfite platinum compounds. Report no.2; Study of the reaction of ammonia and pyridine with bivalent-platinum sulfite compounds. Izv.Sekt.plat.i blag.met. no.27:80-88 '52. (MLR 7:5)

(Platinum) (Sulfites)



Novozhenyuk, Z. M.

A new series of heterogeneous ammine complex iridium compounds. V. V. Lebedinskiĭ and Z. M. Novozhenyuk. *Izvest. Sektora Platiny i Drug. Blagorod. Metal., Inst. Obshchel i Neorg. Khim., Akad. Nauk S.S.R.* 30, 106–8 (1953).—The action of dil. HCl upon Na dichlorotetrasulfitoiridite, $Na_3[IrCl_2(SO_3)_4].5H_2O$, was investigated; the bright-red crystals become white, readily sol. in an excess of HCl, and apparently assume the compn. $Na_3H_3[IrCl_2(SO_3)_4]10H_2O$. $Na_3[IrCl_2(SO_3)_2(NH_3)_2].3H_2O$ was obtained; this is the first representative of a new series of heterogeneous ammonia Ir compds. W. M. S.

NOVOZHENYUK, Z.M.

3 330

CH Structure of complex ammonium sulfite compounds of iridium. V. V. Lebedinskii and Z. M. Novozhenyuk. *Inst. Sektora Platiny i Drug. Blagorod. Metal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.R.* No. 29, 66–76(1955).—Several complex derivs. of Ir were prepd. and their structures are discussed. One g. of $(NH_4)_3[IrCl_6]$ was dissolved in 10 ml. of freshly prepd. aq. satd. soln. of $K_2S_2O_5$. After 2–3 hrs.' heating on a steam bath, bright-yellow, water-insol. prisms of $K_4[Ir(SO_3)_3(SO_3H)_3Cl_3]\cdot 6H_2O$ (I) pptd. It was purified by filtration and washing with water and then with ethanol. Heating in an excess of NH_4 on a steam bath for 12–16 hrs., filtering off unchanged I, partially evapg., and cooling gave colorless rhombohedral crystals (2–3 mm.) of $K_2[Ir(SO_3)_2SO_3H(NH_3)_3]\cdot 7H_2O$, $n_g = 1.568$, $n_m = 1.546$, $a:c = 1:3.270$. The mol. elec. cond. showed formation of 3 ions, thus confirming the assigned coordination formula. Twelve references. A. P. K.

LEBEDINSKIY, V.V.; NOVOZHENYUK, Z.M.

New series of heterogenous ammonium complex compounds of iridium. Izv.Sekt.plat.i blag.met. no.30:106-108 '55.
(Iridium compounds) (MLRA 8:8)

Nesmeyanov, A. N.

AUTHORS: Lebedinskiy, V. V. (deceased), Nazarenko, ... V. 78-2-5/41

TITLE: I. Complex Compounds of Iridium With Ammonia (I. Kompleksnyye soyedineniya iridiya s ammiakom).

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 2, pp. 286-291 (USSR).

ABSTRACT: The influence exerted by ammonia upon the iridium salt $Na_3(NH_4)_2[Ir(SO_3)_2Cl_4] \cdot 4 H_2O$ was investigated. In this reaction three compounds occur: 1. $Na_5NH_4[Ir(SO_3)_3(NH_3)_3]_2 \cdot 14 H_2O$; 2. $Na[Ir(SO_3)_2(NH_3)_3] \cdot 3\,1/2\ H_2O$; 3. $Na_2[Ir(SO_3)_2Cl(NH_3)_3] \cdot 4 H_2O$. These compounds one after the other precipitate from the solution. The compound $Na_2[Ir(SO_3)_2Cl(NH_3)_3] \cdot 4 H_2O$ is easily soluble in water, the compounds $Na_5NH_4[Ir(SO_3)_3(NH_3)_3]_2 \cdot 12 H_2O$ and $Na[Ir(SO_3)_2(NH_3)_3] \cdot 3\,1/2\ H_2O$ are difficult to dissolve. The compound $Na_5NH_4[Ir(SO_3)_3(NH_3)_3]_2 \cdot 14 H_2O$ has orthorhombic crystals of the following composition: Ir - 28,43%, S - 14,23%, Na - 8,50%, N - 7,25%, H_2O - 18,64%, molecular weight - 1330,40. This formula was confirmed by a guanidine compound. The compound $Na[Ir(SO_3)_2(NH_3)_3] \cdot 3\,1/2\ H_2O$ in the form of fine needless has the

Card 1/2

following composition: Ir - 39,09%, S - 12,61%, Na - 4,69%, N - 8,58%, H_2O - 12,88%, molecular weight - 489,40. The compound $Na_2[Ir(SO_3)_2Cl(NH_3)_3] \cdot 4\ H_2O$ is composed of: Ir -34,51%, S - 11,51%, Cl - 6,37%, Na - 8,26%, N - 7,54%, H_2O - 12,94%, molecular weight - 556,91. By these three compounds it was shown that three different crystallization products may developed in the course of one reaction.
There are 5 references, 4 of which are Slavic.

SUBMITTED: April 29, 1957

AVAILABLE: Library of Congress

Card 2/2

AUTHORS: Lebedinskiy, V. V., (Deceased), SOV/78-3-11-7/23
Novozhenyuk, Z. M.

TITLE: II. New Complex Compounds of Iridium With Ammonia (II. Novyye kompleksnyye soyedineniya iridiya s ammiakom)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2462 - 2466 (USSR)

ABSTRACT: Compounds of the following composition are produced under the action of ammonia on the salt $(NH_4)_5[Ir(SO_3)_2Cl_4]$: $NH_4[Ir(SO_3)_2(NH_3)_3]$. 2 H_2O and $(NH_4)_3[Ir(SO_3)_2Cl_2(NH_3)_2]$. 4,5 H_2O. The same compounds are produced by the action of ammonia on the compound $(NH_4)_4[Ir(SO_3)_2Cl_3]$. 2 H_2O. The triamine-disulfito-iridium complex is always produced as final product in the reaction of the above mentioned compounds. This shows that the ammonia in these compounds is probably distributed at the octahedron boundaries. The ammonium-triamine-disulfito-iridium complex $NH_4[Ir(SO_3)_2(NH_3)_3]$. 2 H_2O is white-pulverulent. The solubility of this salt amounts to

Card 1/2

0,22% at 25°C. The crystallographic investigations show that the refractive index through fine prisms amounts to N_g = 1,71, N_m = 1,677 and N_p = 1,62. The compound $(NH_4)_3[Ir(SO_3)_2Cl_2(NH_3)_2]$. 4,5 H_2O is a yellowish-green fine-crystalline powder with cubic lattice with the following refractive index: N_g = 1,618, N_p = 1,583. The solubility of this compound amounts to 4,16% at 25°C. These results show that equal complex compounds of the composition $(NH_4)_5[Ir(SO_3)_2Cl_4]$ and $(NH_4)_4[Ir(SO_3)_2Cl_3]$. 2 H_2O are obtained by the action of ammonia on various compounds $NH_4[Ir(SO_3)_2(NH_3)_3]$. 2 H_2O and $(NH_4)_3[Ir(SO_3)_2Cl_2(NH_3)_2]$ . . 4,5 H_2O. There are 6 references, 6 of which are Soviet.

SUBMITTED: October 16, 1957
Card 2/2

BABAYEVA, A.V.; KHARITONOV, Yu.Ya.; NOVOZHENYUK, Z.M.

Infrared absorption spectra of complex compounds of iridium (III) with an inner-sphere sulfito group. Zhur.neorg.khim. 6 no.10: 2263-2280 O '61. (MIRA 14:9)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova Akademii nauk SSSR.
(Iridium compounds--Spectra)

BABAYEVA, A.V.; KHARITONOV, Yu.Ya.; NOVOZHENYUK, Z.M.

Infrared absorption spectra of complex compounds of platinum (II) with an inner-sphere sulfito group. Zhur.neorg.khim. 6 no.10: 2281-2287 O '61. (MIRA 14:9)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova Akademii nauk SSSR.
(Platinum compounds--Spectra)

CHERNYAYEV, I.I.; NOVOZHENYUK, Z.M.

Nitrosulfite compounds of trivalent iridium. Zhur.neorg.khim. 6 no.11:2462-2469 '61. (MIRA 14:10)
(Iridium compounds)

AVTOKRATOVA, T.D.; ANDRIANOVA, O.N.; BABAYEVA, A.V.; BELOVA, V.I.; GOLOVNYA, V.A.; DERBISHER, G.V.; MAYOROVA, A.G.; MURAVEYSKAYA, G.S.; NAZAROVA, L.A.; NOVOZHENYUK, Z.M.; ORLOVA, V.S.; USHAKOVA, N.I.; FEDOROV, I.A.; FILIMONOVA, V.N.; SHENDERETSKAYA, Ye.V.; SHUBOCHKINA, Ye.F.; KHANANOVA, E.Ya.; CHERNYAYEV, I.I., akademik, otv. red.

[Synthesis of complex compounds of platinum group metals; a handbook] Sintez kompleksnykh soedinenii metallov platinovoi gruppy; spravochnik. Moskva, Izd-vo "Nauka," 1964. 338 p. (MIRA 17:5)

1. Akademiya nauk SSSR. Institut obshchey i neorganicheskoy khimii. 2. Institut obshchey i neorganicheskoy khimii AN SSSR (for all except Chernyayev).

L 5082-66 EWT(l)/EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/GG

ACC NR: AP5024558 UR/0070/65/010/005/0742/0743

546.5

AUTHOR: Delyayev, L.M.; Dobrzhanskiy, G.F.; Novozhikhareva, L.V.; Shaskol'skaya, M.P.

TITLE: Dependence of the perfection of structure and properties of crystals on growing methods

SOURCE: Kristallografiya, v. 10, no. 5, 1965, 742-743, and insert facing p. 742

TOPIC TAGS: single crystal growing, potassium chloride, crystal dislocation

ABSTRACT: A preliminary qualitative study of the effect of various growing techniques on the degree of perfection and properties of the KCl crystal was carried out. Seventy single KCl crystals were grown by the following techniques: Kyropoulos, Kryopoulos with constrictions, Czochralski, Stockbarger, zone crystallization, and aqueous solutions. The perfection of the crystals was determined from the dislocation density revealed by etch figures. The microhardness was obtained with a PMT-3 instrument, and the length of the etch-figure star was measured. KCl crystals with the lowest dislocation density were obtained by the Kyropoulos technique, particularly that involving constrictions. In these crystals, the dislocation density and microhardness decrease from the seed to the end of the crystal. The dependence of structural perfection on the growing methods was found to be quite strong; particularly apparent is the influence of the solvent and crucible. The desirable role of constrictions was confirmed. "The authors thank K. S. Chernyshev for assistance in the experiments." Orig. art. has: 1 figure and 1 table.

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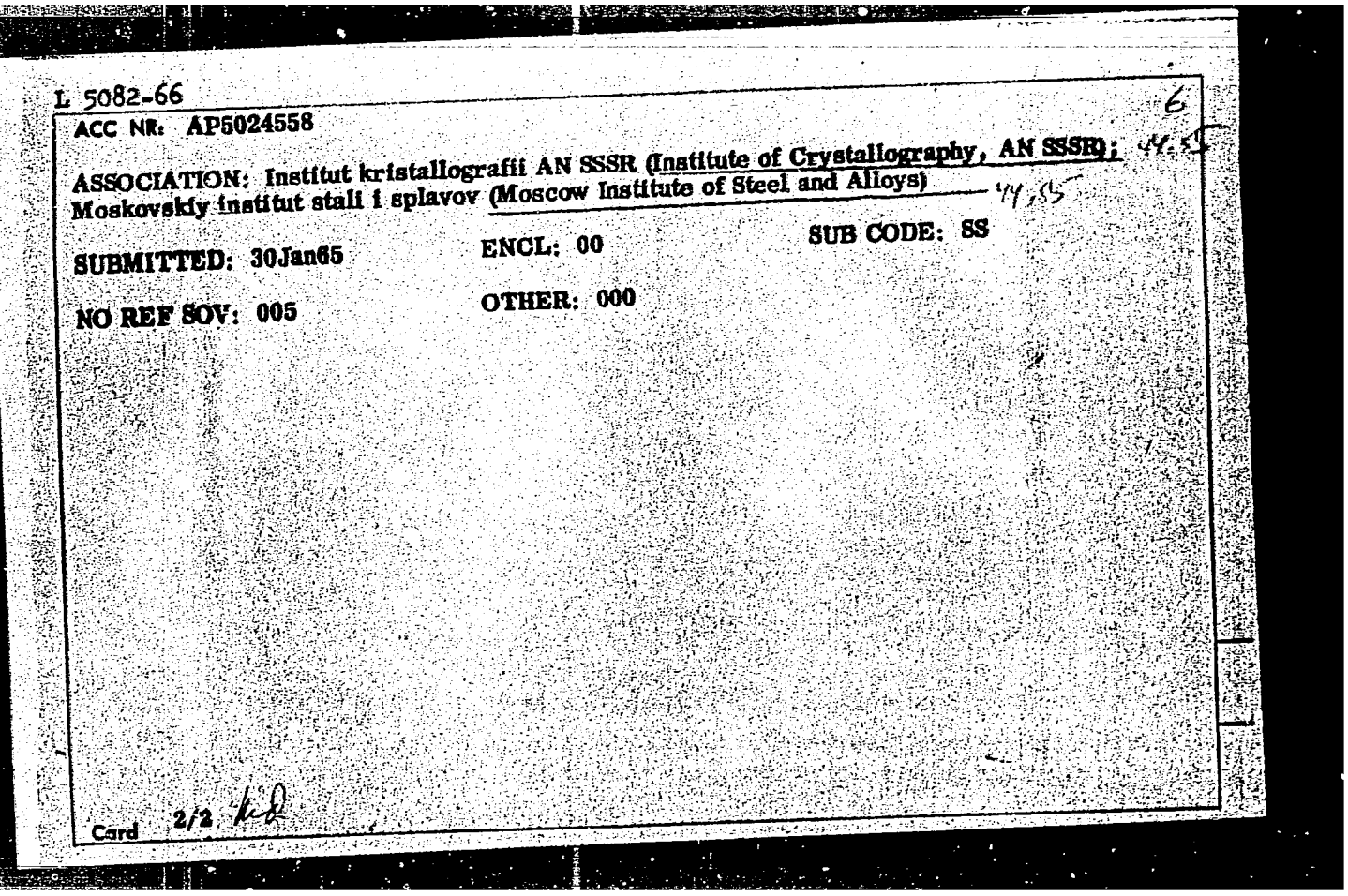

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ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography, AN SSSR); 44,55
Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys) 44,55

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Novozhilov, A. A.

AUTHORS: Litvinov, N.N., Novozhilov, A.A., Kardysh, V.G. 132-58-3-14/15

TITLE: An Urgent Problem (Aktual'naya problema)

PERIODICAL: Razvedka i Okhrana Nedr, 1958, Nr 3, p 62 (USSR)

ABSTRACT: The Central Construction Committee of the Ministry of Geology and Conservation of Mineral Resources of the USSR in collaboration with the Vsesoyuznyy institut tekhniki (All-Union Technical Institute), will elaborate projects for new equipment for drilling and prospecting enterprises. The organization appeals to various specialists of these branches to send their observations and requirements to ensure a successful solution of the problem.

ASSOCIATION: TsKB Ministerstva geologii i okhrany nedr SSSR (Central Construction Committee of the Ministry of Geology and of Conservation of Mineral Resources of the USSR)

AVAILABLE: Library of Congress

Card 1/1 1. Minerals-Conservation-USSR

NOVOZHILOV, A.A., starshiy inzhener-tekhnolog

Efficient arrangement of looms. Tekst.prom. 20 no.2:12-14 F '60. (MIRA 13:6)

1. Giprotekstil'prom.
(Looms) (Textile factories--Management)

MOVOZHILOV, A.A., glavnyy veterinarnyy vrach Bostandykskogo rayona, Yuzhno-Kazakhstanskoy oblasti; MOLCHANOV, D.P., veterinarnyy vrach Bostandykskoy rayonnoy vetlechebnitsy.

Contsol of brucellosis in farm animals in the district. Veterinariia 33 no.6:21-22 Je '56. (MLRA 9:8)
(Kazakhstan--Brucellosis--Preventive inoculation)

BESKIN, L.Z.; NOVOZHILOV, A.A.

Organization of continuous lines for the cleaning and inspection of fabrics in loom state. Tekst. prom. 25 no.10:34-38 O '65. (MIRA 18:10)

1. Rukovoditel' gruppy otdela mekhanizatsii GPI-6 (for Beskin).
2. Glavnyy spetsialist tekhnicheskogo otdela GPI-6 (for Novozhilov).

SOV/136-58-6-13/21

AUTHORS: Donchenko, P.A., Novozhilov, A.B. and Salomatov, N.K.

TITLE: Mastering the Slag-fuming Installation at the Ust'-Kamenogorsk Lead-zinc Combine (Osvoyeniye shlakovozgonochnoy ustanovki na Ust'-Kamenogorskom svintsovo-tsinkovom kombinate)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 6, pp 74 - 82 (USSR)

ABSTRACT: The slag-fuming installation at the lead works of the Ust'-Kamenogorsk Combine was started in January 1956, having been built to the imperfect designs of the Giprotsvetmet. The authors briefly describe the installation and the improvements made in the design of individual units and outline operating results. The installation (Figure 1) consists of a fuming furnace fired with a coal-air mixture. An electrically heated settler for separating matte from slag, waste-heat boilers, sleeve filters, coal pulverisation section and air blowers. The furnace (Figure 2) is a rectangular shaft (internal hearth dimensions 2.107 x 3.12 m, height 5.3 m) with a capacity of 26 tons of slag (1.5% Pb, 12.8% Zn, 0.8% Cu). The fume amounts to 19% of the slag weight and contains 7.5% Pb, 60% Zn (Zn and Pb recovery 82 and 97%, respectively). The coal

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used is Prokop'yevsk (calorific value 6 800 cal/kg, 15.8% ash), ground with a type SM-18 hammer mill and crushed with a type Sh-10 mill; the dust is passed through a system of bunkers and injected with the aid of feeders of the type used at the Podol'sk Tin Works. The settler (Figure 3) is lined with chrome-magnesite and fire-clay bricks and has three graphite electrodes fed by three type EPOM-250 transformers giving a current of 2 500 - 3 000 A. The waste-heat boiler type UKTsM 15/40 was specially designed by Giprotsvetmet and reduces gas temperature from 1 200 - 350 °C. Experience showed that the original cast-iron furnace ports were unsatisfactory, the receiver of the filling runner was too small, the combustion of gases was completed in the waste-heat boiler. The Kazgiprotsvetmet-designed settler was also found to be unsatisfactory in most respects and the dust-catching arrangements were insufficient. To find optimal operating conditions tests were carried out jointly by the VNIItsvetmet Institute, the experimental shop of the combine and personnel of the fuming department (table).

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The dependence of the metal contents on duration of blowing of the metal contents in the slag (Figure 4), of metal concentrations in the fume (Figure 5) and of gas dust contents (Figure 6) were among the factors studied. In spite of its original failings, the adoption of the installation has proved profitable; oxygen-enrichment of the blast should improve efficiency further.
There are 6 figures and 1 table

ASSOCIATION: UKSTsK

NOVOZHILOV, A.B.

Effect of the physical state of the charge mixture and the rate of blowing on the sintering process of lead concentrates. TSvet. met. 36 no.9:32-37 S '63. (MIRA 16:10)

NOVOZHILOV, A.G., inzh.; ABRAMOVICH, I.I., inzh.; SITNIKOV, L.P., red.; SOSINA, A.L., tekhn. red.

[Collection of inventions; mechanization of loading and unloading operations] Sbornik izobretenii; mekhanizatsiia pogruzochno-razgruzochnykh rabot. Moskva, TSentr. biuro tekhn. informatsii, 1961. 378 p. (MIRA 15:3)

1. Rossia (1923- U.S.S.R.) Komitet po delam izobretenii i otkrytii.
(Loading and unloading--Technological innovations)

NOVOZHILOV, A.I.

Heater system for drying traction motors. Elek. i tepl. tiaga 6 no.10:12-13 O '62. (MIRA 15:11)

1. Nachal'nik tekhnicheskogo otdela depo Irkutsk II.
(Electric railway motors—Drying)

NOVOZHILOV, A.I.

Hermetic sealing of caps. Mashinostroitel' no.11:13 N '62. (MIRA 15:12)

(Sealing (Technology))

21.1000

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SOV/89-8-3-4/32

AUTHORS: Novozhilov, A. I., Shikhov, S. B.

TITLE: A Method of Averaging Nuclear Constants for Calculations of the Fast Reactor, Taking Into Account The Value of Neutrons

PERIODICAL: Atomnaya energiya, 1960, Vol 8, Nr 3, pp 209-213 (USSR)

ABSTRACT: The authors describe a method of averaging many-group constants for the single-group computations of the critical volume or critical mass of a two-zone fast reactor. Usually, for computations of single-group cross sections, one estimates approximately integral spectra separately in the active zone and in the shield, and afterwards, the initial many-group constants are averaged over those spectra. Trial computations showed that the critical mass obtained by means of an averaging over neutron spectra of many-group constants is 10-20% lower than the critical mass obtained by solving the many-group spatial diffusion system of equations. One obviously produces a discrepancy by not taking into account the

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different contributions to the reactivity of neutrons of different importance. The authors devised a better method, starting from the equations for the total balance of neutrons and their importance in some finite volume, without distinguishing between the active zone and the shield.

$$-J_k - \Sigma_{cl}^{(k)} I_k - \left(\Sigma_{yn}^{(k)} I_k - \sum_{j=1}^{k-1} \Sigma_{yn}^{kj} I_j\right) + \\ + \chi_k \sum_{l=1}^{m} \frac{\nu_l^{(l)} \Sigma_f^{(l)} I_l}{K_{eff}} = 0; \qquad (1)$$

$$J_k - \Sigma_{cl}^{(k)} I_k - \left(\Sigma_{yn}^{(k)} I_k - \sum_{j=k+1} I_j \Sigma_{yn}^{jk}\right) + \\ + \frac{\nu_l^{(k)} \Sigma_f^{(k)}}{K_{eff}} \sum_{l=1}^{m} \chi_l I_l = 0 \qquad (2)$$

$(k = 1, 2, \ldots m)$.

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Here $I_k = \int_V \Phi_k \, dV$ и $I_k^+ = \int_V \Phi_k^+ \, dV$

are integral fluxes and importances of neutrons of the k-th group in the volume under consideration; J_k, J_k^+ is total escape of neutrons and importance from that volume; indexes c, f, and yb in the macroscopic cross-sections indicate, respectively, the radiative capture, fission, and total inelastic outflow from the given group. Σ_{yb}^{kj} denotes the macroscopic cross section of the transfer from group j into group k, with

$$\Sigma_{ya}^{(k)} = \sum_{j=k+1}^{m} \Sigma_{yb}^{jk};$$

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χ_k denotes the share of fission neutrons joining the

k-th group where $\sum_{k=1}^{m} \chi_k = 1$; $\nu_j^{(k)}$ is number of fission neutrons per one fission caused by a neutron of the k-th group. In Eq. (1) the group number increases with the decrease of neutron energy. Spectra of the neutron flux and neutron importance obtained from conjugate Eqs. (1) and (2) are then used for the separate averaging of the constants in the active zone and in the shield. The single-group constant obtained permits a reliable computation of the critical load of the reactor without solving the spatial many-group diffusion problem. When solving (1) and (2) one assumes that the loss into empty space is zero (for a thick enough shield), while the escapes from the equivalent bare reactors are counted as auxiliary (inner) sources of the screen. The solution can be written in the form proposed by L. N. Usachev:

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$$J_k = N_k + M_k \frac{\sum_{j=1}^{m} \nu_j^{(j)} \Sigma_f^{(j)} N_j}{1 - K_\infty}, \qquad (6)$$

where

$$K_\infty = \sum_{j=1}^{m} \nu_j^{(j)} \Sigma_f^{(j)} M_j. \qquad (7)$$

M_k is here the neutron flux of the k-th group in an infinite medium with fission neutrons as sources; N_k is neutron flux in an infinite medium with inner sources representing escapes from the active zone. In a footnote the authors observe that an averaging method, taking into account the neutron importance, was proposed independently by G. I. Marchuk, Numerical Methods for Computation of Nuclear Reactors (Chislennyye metody rascheta yadernykn reactorov), M., Atomizdat, 286 (1958). While this represents a general iteration

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method for reduction of many-group diffusion problem to an equivalent one- and two-group problem, and is convenient for the computation of multizonal reactors, it requires prior notions about space and energy distribution of neutrons in reactors. The method developed by the author starts by multiplying Eq.(1) by I_k^+, and summing over all groups yields:

$$\frac{1}{K_{eff}} = \frac{\kappa^2 \sum_{k=1}^{m} D_k I_k I_k^+ + \sum_{k=1}^{m} \Sigma_{cf}^{(k)} I_k I_k^+ + \sum_{k=1}^{m} I_k^+ \left(\Sigma_{ya}^{(k)} I_k - \sum_{j=1}^{k-1} \Sigma_{ya}^{(j)} I_j \right)}{\left(\sum_{k=1}^{m} I_k^+ \chi_k \right) \left(\sum_{i=1}^{m} \nu_i^{(i)} \Sigma_f^{(i)} I_i \right)} \quad (8)$$

Imposing then the requirement that the reactivity computed by the single-group method coincides with the reactivity obtained from the many-group calculation, the authors obtained a set of equations for the averaging of constants, and then using the single-group equation for the critical volume calculated the critical

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parameters of the two-zonal reactor. They computed the composition of the active zone and screens for three types of fact reactors. They also showed (see Table 2) that single-group cross sections, computed with and without contribution from neutron importances, could be quite significant. The method of calculating critical load of fast reactors outlined in the table is applicable under the following conditions: (1) The thickness of the shield must be of the order of 2-3 effective diffusion lengths. (2) There should be no edge effects in the shield; such effects could be present in case of intermediately fast reactors with hydrogen-containing materials in the shield. (3) The size of the active zone should be larger than 4-5 single-group free path lengths of the neutrons. Smaller zones would require corrections in equations used, which would account for kinetic effects in gases. (4) The method was checked for reactors with not more than 2 zones. There are 3 Tables; and 2 Soviet references.

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Table 2. Single Group Cross Sections, Averaged With and Without Accounting of Neutron Values.

(a)	(b)	(c)					(d)	
		$\overline{\Sigma_f \nu_f}$	$\overline{\Sigma_{c,f}}$	l_{eff}	$\overline{D}$	$\varkappa$	$\overline{D'}$	$\varkappa'$
I	(e) (f)	0,0176 0,0154	0,0085 0,0084	0,0019 –	1,06 1,65	0,052 0,060	1,30 0,88	0,080 0,080
II	(e) (f)	0,0133 0,0119	0,0085 0,0083	0,0018	1,98 1,62	0,041 0,050	1,27 0,95	0,095 0,089
III	(e) (f)	0,0118 0,0099	0,0067 0,0072	0,0020	1,81 1,58	0,043 0,054	1,17 0,96	0,087 0,085

Key to Table 2. (a) Reactor version; (b) method of averaging; (c) active zone; (d) screen; (e) with importance; (f) without importance.

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